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Home > Technical Review
Facility Name Michigan Potash Operating, LLC

EPA Permit MI-133-11-0004

8_6/806 6_8/7049

Contact T

Theodore A. Pagano

Class:

Permit Type

Individual Permit

Well Name

MPC 1D

Well Status

State Permit #

Proposed Well (associated

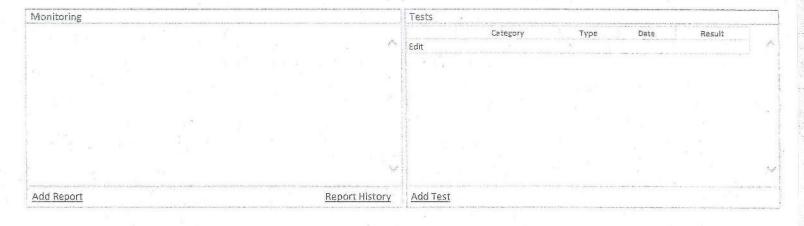
with permit application only)

Well Status Date 1/16/2015

11

County

Tribal Name





A. Area of Review Methods What is the AOR based on?

Save | Cancel

B. Maps of Wells: Area of Review

Does the topographic map show all of the required features? (The map should include all surface features

man-made or natural, and subsurface features such as mines, wells, and known faults)

Are there topographic maps that extend one-mile beyond the property boundary that depict the facility and each of its intake and discharge structures, hazardous waste treatment, storage, or disposal facilities; each well where fluids from the facility are injected; and those wells, springs, and other surface water bodies and drinking water wells listed in the public records within a 1/4 mile.

Is there a list of all of the land owners within the AOR?

Surface elevation of the wellsite

The elevation is based on

Save | Cancel

Yes∨

Fixed 2-mile

Yes V

Yes ∨

Ground level V

C. Corrective Action Plan and Well Data

Number of wells that are temporarily abandoned

Is the construction adequate?

Number of wells that are plugged and abandoned

Is the construction adequate?

Number of wells that are producers

Number of wells that are injectors		[22]	
Number of wells that are injectors		12 12	
Is the construction adequate?		Yes V	
Number of Other Wells		0	1 4
Is the construction adequate?		NA Y	1
Is there a corrective action plan?		NA V	
Number of wells that penetrate into or thro	rugh the confining zone	34	
D. Maps and Cross-sections of USDWs			
Formation name of lowest USDW:	менастворого при нестем в пред наприл учество доже выпод выподнение по выподнение и и и и и и и и и и и и и и и 	Glacial Drift	
Is there a statigraphic column that shows al	LUSDWs?	For many company and a company of any process.	Yes V
Depth to base of lowest most USDW(ft)			620
Method for USDW determination Save Cancel		Hydrogeologic test holes.	25 Characters Lef
F. Maps and Cross-sections of the geologic	structure of the area	the control of the second control of the control of	erika washing radional and anaesa
Is there a regional cross-section map and s		Yes ✓	77-5756 (1636) били рыстолования окить по
Is there a site specific cross-section map an		Yes	
is there a site specific cross-section map an	d structure countour map	1100 +	L
	Injection Interval	Confining Zone	
Formation Name	Amherstburg Formation	Detroit River Group	
Lithology	Sandstone 🗓 ,	Anhydrite 🗓	
Depth to Top (ft)	4962	4088	
Depth to Bottom (ft)		h	
	5550	4962	
Permeability (md)			
Porosity (%)			
	the injection zone and the base of the USDW?	4342	
	r induced fractures in the injection and confining zones adequately	Yes 🗸	
investigated?			
Save [Cancel]		+	
U Opposition Data			·
H. Operating Data The injectate is		American Ame	liquid 🗸
Injection Rate Unit		Ga	allons per minute V
Method used to determine maximum inject	ion prossure		Fradient equation V
Wethou used to determine maximum inject		<u>[, radase e</u>	100 Characters Lef
Source of fracture gradient		Default	<u> </u>
Known fracture gradient		Separate and the separa	0.80 🗸
Maximum expected injection rate(gpm)		8640	
Maximum enforceable injection rate(gpm)			
Maximum specific gravity of injectate		1.25	
Add Safety Factor For Specific Gravity?		Louis	
Friction Allowance		1	No.
Technical basis for friction allowance		7	
Maximum injection pressure(r5_mip_calc_f	ormula) txtr5MipCalcFormula / lblr5MipCalcFormula	1.269 12	69
pH range		an interestination of the second of the seco	
Does the corrosion monitoring comply with	40 CFR part 146.68(c)?		NA V
Is corrosion monitoring required			No V
What is the composition of the annulus fluid	d	Brine Water with Corro	
	x	**************************************	
4			Save Cancel

Does the formation testing proposed m	eet CFR 146.12	(d) and (e) [for	r non-haz] or 14	6.66 (for haz) or	145.32(b) [Cla	ss III]?	Yes V	
Are there adequate procedures for acq	uiring formation	n pressures abo	ove the injection	interval?			Yes V	
Are there adequate sampling and analy	rsis procedures	for the first aqu	uifer overlying th	ne confining zon	e?		Yes V	1
are there adequate sampling and analy	rsis procedures	for the injectio	n zone?				NA V	
Will there be coring?	1						No V	·
Proposed method for determining fract	ture gradient						step rat	e test
Save Cancel								
J. Stimulation Program								
Is a stimulation proposed	Service description PARTIES							Yes V
What is the type of stimulation?							acid	
Is this type of stimulation approved?							hamana.	Yes V
Save Cancel								-
K. Injection Procedures		Acres desired acres of consumer						
Is there a plant plan that shows the str	eam flow lines?	en a mentral di sale di pelajara anti kia	Carried Commence of Astronomy	heren er han eine haken hann e	Survivalent Construction (Co.)	Yes V	nd make word or to story the or	Contract Contract of the Contract Contr
Are there descriptions of any filters, sto			ent?			Yes V		
What is the storage tank capacity?	() () () () () () () () () ()	30 %				147000		
What is the rate capacity of the pumps	?					660		
What is the pump capacity type?						(None)	7	
Is an alarm system proposed?						Yes V		
What are the alarm thresholds?								4
The shut-off system will be						Manual	V	
What are the shut-off thresholds?						MIP		
Save Cancel					41.1	-		
Save Cancel		PIP STATE OF STATE OF SAME OF M			and the second second second second			
M. Construction Details							*	
	Pipe/	Hole set			Newsbare	Ceme	ented	
	From top (ft)	To base(ft)	Pipe Size(in)	Hole Size(in)	Number of sacks of	From top(ft)	To base(ft)	
			Particular Company		cement	7446		
Conductor								
Surface Casing	0	800	9,625	13.375	320	0	800	
Intermediate Casing					And the second second second			
Long String Casing	0	5160	7	8.75	670	0	5160	
Liner								
Perforated Section			Section 2		the second	L-manue J		
Open Hole	5160	5550		8.75				
Packer depth		5050			8			
Tail Pipe depth						4		
What is the plug back total depth?		5550						
What is the total depth of the well?		5550						
Is the packer set 100 ft or less above zone?	the injection	Yes						
Tubing material	2		~			9		
Tubing size			mental and a second					
Save Cancel		L						

What actions are proposed if MI is lost? Save Cancel P. Monitoring Program	shut-in, notify EPA,
P. Monitoring Program	
P. Monitoring Program	
	The state of the s
Where is the sample located?	At discharge of fina
Is there an adequate description of source(s) of waste?	<u>Y</u>
Is there a representative of waste analysis?	· <u>[Y</u>
What's the frequency of physical and chemical monitoring?	· ·
What's the frequency of monitoring reports?	many prompted that the program control and the
Is there adequate waste characterization including compatibility?	[y
Is a ground water monitoring plan included?	N
Please describe waste recharacterization.	
is QA/QC adequate?	IY
Is WAP adequate?	T
Is the monitoring and recording system for injection pressure, flow rate, volume, and annulus pr	Last Last
Save Cancel	
hit automore descriptions and the second sec	
Q. Plugging and Abandonment Plan	
How many plugs will be used to plug the well?	Generate Plug
Signed estimate of plugging and abandonment costs (and post-closure costs, if applicable) by an i	independent firm
Estimated Plugging Cost	30400
Estimated Post Closure Cost	
Date the plan was signed	the second section of the sect
	01550014
Date of 3rd Party Plugging Cost Estimate	9/15/2014
Save Cancel	
Add Plug	
R. Necessary Resources	
Available Mechanisms Selected Mechanisms	
Individual state bond DEPNO59831331 Individual state bond DEPNO	O59831311
Individual state bond DEPNO59831321	
Individual state bond DEPNO59831311	
Asserted and the second of the	Annual An
Edit Mechanisms	
C Aquifor Everyntians	
	I M
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	<u> </u>
Service Control of the Control of th	
	ĪNA
List Existing permits and permit numbers	MI-133-1I-0004, -00
List Existing permits and permit numbers List outstanding permit applications	Landau Caraca Ca
	and the state of t
List outstanding permit applications	
List outstanding permit applications	
List outstanding permit applications Save Cancel	Production and manufacturing A
List outstanding permit applications Save Cancel U. Description of Business	of agricultural fertilizer.
List outstanding permit applications Save Cancel U. Description of Business	
S. Aquifer Exemptions Is the company asking for an aquifer exemption? Aquifer Name Save Cancel T. Existing Permits	

Has the permit writer evaluated whether ther	e are endangered or threa	tened species in the AOR?		8:	Yes V
Are there any listed species in the AOR?			8 / 9		No V
Will the permit need an ESA Clause?					No V
Was the Historic Preservation Office contacted	d?				Yes
Are there historic resources present?				- 4	No V
Is the well located in a coastal zone?					No V
If yes, then has the permit writer contacted th	ne State Coastal Managem	ent Program in writing?			NA V
Does the permit application call for the divert	ing, impounding, deepenir	ng or controlling any surfac	e water body in exce	ess of 10 acres?	No V
EJ number					2 ej screen
Save Cancel					have an and
		The state of the s	The second secon	manus and an analysis and an	
X. Confidentiality	and the state of t		Account of the control of the contro		File (4) managementation (4.4) mile mentional de administrativa de como de la como
Has any part of this permit application been	declared confidential by th	ne operator?			No V
. Save Cancel					
			Marian Astronomer Astrophysics and activities and		
Other				**************************************	and the contract of the contra
		Comments			-
			20		
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Update Cancel					
Review Completion					
Reviewer	BATKA ALLAN				
Signature Date	1/20/2016				
Update Cancel	1,720,2010				
Contract Con					
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